**Methods 2 Revision: Shape, Space and Measures**

*There are 2 parts to each question. If you get help with the first part, try to do the second part on your own.*

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| --- | --- | --- | --- | --- |
| 1 | (a) Find the size of angle x, giving reasons | | (b) Find the size of angles x and y, giving reasons | 6 |
| 2 | (a) Find the exterior angle of this regular octagon | | (b) Find the exterior angle of this regular hexagon | 4 |
| 3 | (a) Find the length of sides A, B and C giving your answers to one decimal place. | | | 6 |
| (b) Find the length of sides A, B and C giving your answers to one decimal place. | | |
| 4 | (a) Find the area of these circles  Remember:  C=πd “Cherry Pies Delicious  “Apple Pies aRe Two”  (i) Radius = 7  (ii) Diameter = 24  (b) Find the area of these circles  (i) Radius = 11  (ii) Diameter = 17.4 | | | 4 |
| 5 | 1. A and B are two geometrically similar solids.   The total surface area of shape A is 3200cm2  The total surface area of shape B is 16928cm2  The volume of shape A is 4760cm3  Calculate the volume of shape B. | 1. C and D are two geometrically similar solids.   The volume of shape C is 17cm3  The volume of shape D is 136cm3  The total surface area of shape C is 9.6cm2  Calculate the total surface area of shape D. | | 6 |
|  |  | | |  |
| 6 | 1. Find the volume of this cylinder.   Give your answer to 1 decimal place.    . | 1. Find the volume of this cylinder.   Give your answer to 1 decimal place | | 4 |
| 7 | (A) The two triangles are similar.  a) Work out the size of x.  b) Work out the size of y. | (B) BE is parallel to CD  Find the length of BC. | | 6 |
| 8 | For each triangle find the side or angle marked with  the letter *x*.  Give your answer correct to 1 decimal place. | For each triangle find the side or angle marked with  the letter *x*.  Give your answer correct to 1 decimal place. | | 16 |
| 9 | Calculate the area of triangle ABC.  Give your answer correct to 1 decimal place. | Calculate the area of triangle ABC.  Give your answer correct to 1 decimal place. | | 66 |
| 10 | *OAB* is a sector of a circle, centre *O*  a) Work out the length of the arc *AB*  Give your answer to 1 decimal place.  b) Work out the area of sector *AOB*.  Give your answer to 1 decimal place. |  | |  |
|  | 4 |
|  | *OAB* is a sector of a circle, centre *O*  a) Work out the length of the arc *AB*  Give your answer to 1 decimal place.  b) Work out the area of sector *AOB*.  Give your answer to 1 decimal place. |  | | 4 |
| 11 | Here is the graph of *y* = sin *x°*, where 0 < *x* < 360°  Given that sin 30° = 1/2, write down the value of  (a) sin 150°  (b) sin 330° |  | | 6 |
| Here is the graph of *y* = cos *x°*, where 0 < *x* < 360°  Use the graph to find estimates of the solutions, in the interval 0 < *x* < 360, of the equations  (a) cos *x*° = –0.3  (b) 4cos *x*° = 3 |  | |
| 12 |  | This is a cuboid, ABCDEFGH  AB = 9 cm, BC = 8 cm, AG = 16 cm  a) Calculate the length AE.  Give your answer to 3 significant figures.  b) Work out the angle between CE and the horizontal plane ABCD.  Give your answer to 2 significant figures. | | 10 |
| The diagram shows a square-based pyramid ABCDX. AB = BC = 9 cm.  The point M is the centre of the square base.  XM = 12 cm.  a) Calculate the length of AC.  Give your answer to 3 significant figures.  b) Work out the angle between the edge AX and the  horizontal plane ABCD.  Give your answer to 1 decimal place. |  | |
|  |  | This is a sphere with radius 8 cm.  a) Find the volume of the sphere.  Give your answer to 3 significant figures.  b) Find the surface area of the sphere.  Give your answer to 3 significant figures. | | 8 |
| This is a cone with radius 4 cm and height 13 cm.  a) Find the volume of the cone.  Give your answer to 3 significant figures.  b) Find the curved surface area of the cone.  Give your answer to 3 significant figures. |  | |

